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PARADISE-WHITNEY INTERCEPTOR ODOR CONTROL FACILITY ENVIRONMENTAL ASSESSMENT



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ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effects
BLM	Bureau of Land Management
BMPs	Best Management Practices
CCDAQ	Clark County Department of Air Quality
CCRFC	Clark County Regional Flood Control District
District	Clark County Water Reclamation District
CEQ	Council on Environmental Quality
DRI	Desert Research Institute
CFR	Code of Federal Regulations
CLV	City of Las Vegas
DRI	Desert Research Institute
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
EWRC	Enterprise Water Resource Center
FONSI	Finding of No Significant Impact
LVFO	Las Vegas Field Office
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NISC	National Invasive Species Council
NNHP	Nevada Natural Heritage Program
NRHP	National Register of Historic Places
PBO	Programmatic Biological Opinion
REC	Recognized Environmental Condition
PWI	Paradise-Whitney Interceptor
USC	United States Code
USDA	United States Department of Agriculture
USGS	United States Geologic Survey
WQMP	Water Quality Management Plan

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1. INTRODUCTION

This document provides an analysis of the potential environmental impacts related to the construction, operation, and maintenance of the Paradise Whitney Interceptor (PWI) Odor Control Facility. The PWI is a large diameter pipeline that will be designed to convey raw wastewater from the southwest part of the Las Vegas Valley at the intersection of Valley View Boulevard and Serene Avenue to the east side of the city near the intersection of Flamingo Road and Nellis Boulevard.

The PWI is being designed to minimize sulfide generation during its operation; however some sulfide, mercaptans, and other odorous compounds will likely be generated in the interceptor. To help minimize sulfide generation and control odor emissions, a site for odor control facilities with adequate area to accommodate both liquid-phase and vapor facilities is proposed on Bermuda Road. The proposed site for the odor control facilities is a 1.25 acre parcel within a larger 5 acre parcel, located within Section 10, Township 22 South, Range 61 East, on government lot 44 within unincorporated Paradise Township (Figure 1). The project is located on lands administered by the Bureau of Land Management (BLM).

1.1 DOCUMENT ORGANIZATION

This EA is presented in eight main sections as follows:

- Chapter 1 is an introduction to the project and describes the document organization.
- Chapter 2 summarizes the environmental assessment process.
- Chapter 3 describes the purpose and need for the project and contains a description of the action alternative, the no-action alternative, and a summary of alternatives that were eliminated from detailed consideration because they did not meet the purpose and need, and the reasons they were not evaluated in detail.
- Chapter 4 describes the affected environment and the environmental consequences of the proposed project.
- Chapter 5 describes cumulative impacts of the project and any future projects that can be reasonably anticipated
- Chapter 6 provides an analysis of short-term uses and long-term productivity and describes irreversible and irretrievable commitments of resources.
- Chapter 7 provides a plan to mitigate impacts.
- Chapter 8 lists the references used in preparing this document.

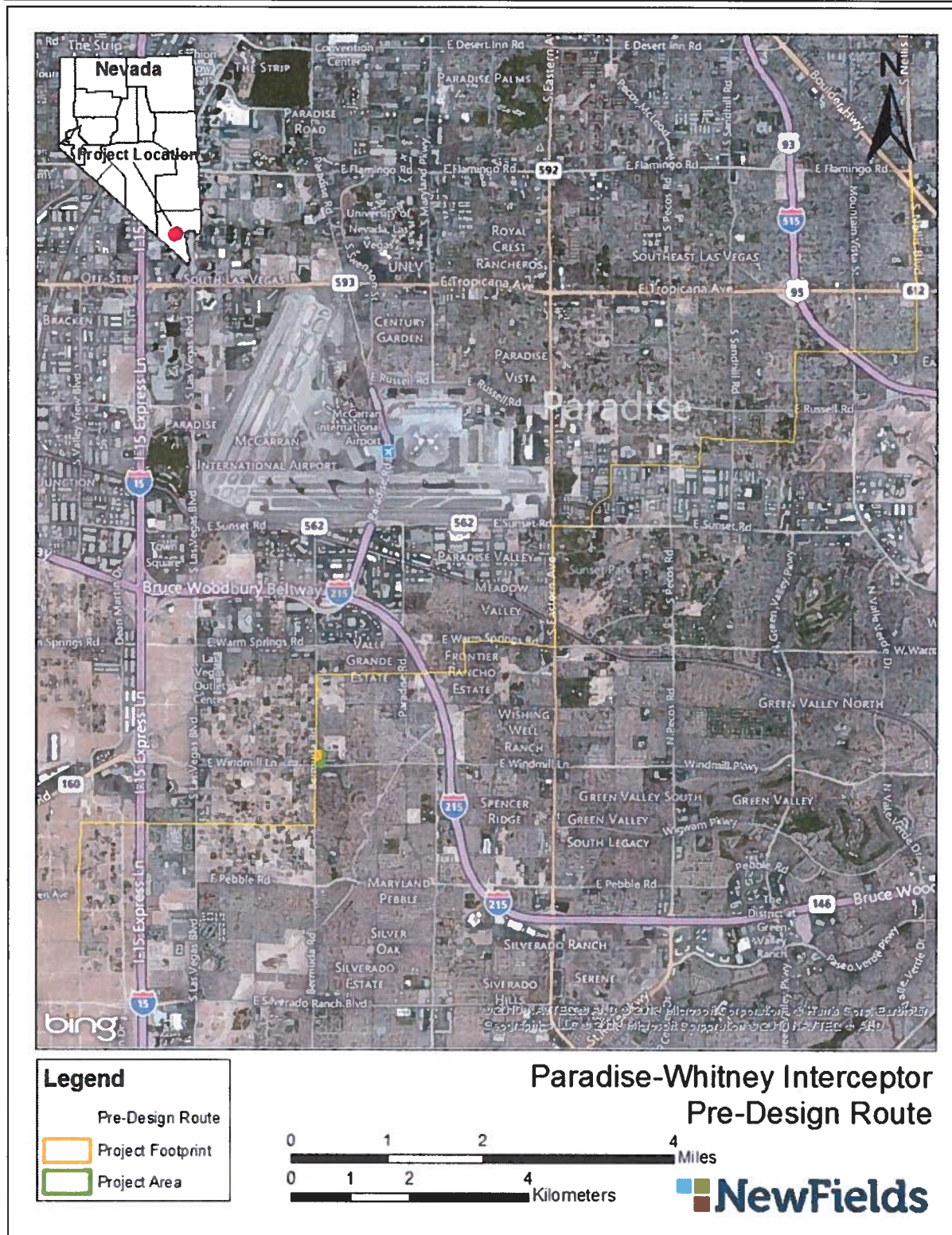


Figure 1. PWI Odor Control Facility Project Area Location

2. ENVIRONMENTAL ASSESSMENT PROCESS

The Clark County Water Reclamation District (District) is accountable for the review and approval of the proposed PWI Odor Control Facility as part of its responsibilities to the citizens of Clark County, and its mission to manage reclaimed water as a resource. Construction of the Odor Control Facility may also require approval by the U.S. Bureau of Land Management (BLM) because the project would be constructed on lands under their jurisdiction. District and BLM approval of the proposed odor control facilities is not a major Federal action and therefore an Environmental Assessment (EA) is the appropriate National Environmental Policy Act (NEPA) documentation. This EA was designed to provide the reviewing agencies with information needed to determine whether or not the proposed action is an undertaking that would require detailed analysis in an Environmental Impact Statement, or would result in the issuance of a Finding of No Significant Impact (FONSI).

This process is a direct NEPA-based decision process intended to assess the potential impacts associated with a specific odor control project and to determine the need for mitigation or additional environmental documentation such as this EA. To facilitate the EA process and avoid unnecessary paperwork, other documents should be incorporated by reference as part of the EA (40 CFR 1502.21).

It was with these principles in mind that the EA structure outlined in this chapter was formulated. The basic concept is that only those resources that may be affected were analyzed in detail. This EA was prepared for the odor control facilities using a common NEPA structure. This EA is organized as follows:

- 1.0 Introduction
- 2.0 Environmental Assessment Process
- 3.0 Project Description
- 4.0 Affected Environment and Environmental Consequences
- 5.0 Cumulative Impacts
- 6.0 Other Analyses
- 7.0 Environmental Commitments (Mitigation Plan)
- 8.0 References

3. PROJECT DESCRIPTION

This section describes the purpose and need for the proposed action, defines the roles of the District and the BLM, and describes how the proposed action was selected.

3.1 Purpose and Need

This EA provides an analysis of the potential environmental impacts related to the construction, operation, and continuing use of the District PWI Odor Control Facility. The applicant's purpose and need is for safe and inoffensive wastewater conveyance facilities to serve this portion of Clark County in response to past population growth.

Because the parcel proposed for development of the Odor Control Facility is located on BLM managed lands, the BLM must approve a right-of-way, a Recreation and Public Purpose (R&PP) lease, or sale of the land to the District so that the facility can be constructed. The BLM will decide whether to deny the proposed lease/sale, grant the lease/sale, or grant the lease/sale with modifications. Modifications could include changing the route or location of the proposed facilities (43 CFR 2805.10(a)(1)). Consideration of such a lease or sale would be in compliance with the Federal Land Policy Management Act, BLM right-of-way regulations, and other applicable Federal laws and policies.

3.2 Proposed Action and Alternatives

The proposed alternative presented in this EA is an economically feasible option for development of the proposed Odor Control Facility located at the northeast corner of Bermuda Road and Windmill Lane on lands administered by the BLM. The objective of the action is to provide a facility to reduce noxious odors for businesses and residents of southwest Las Vegas.

The proposed Odor Control Facility will include liquid and vapor phase odor control utilizing TriOxyn™, an inorganic salt also known as calcium nitrate and vapor phase odor control utilizing a foul air dry media scrubber. The unmanned facility will include chemical storage and chemical pumps for the liquid phase treatment and a blower and scrubber for the gas phase treatment. Onsite utilities include potable water and power. The TriOxyn™ will be stored in two high density crosslinked polyethylene tanks with a 4000 gallon capacity. The TriOxyn™ would be dosed into the sewer with an automatic chemical pumping system. Storage tank levels and dosage rates would be monitored via connection to a transmitter sending information to a website accessible by the District. The facility will also be visited by operations staff on a regular weekly schedule for equipment maintenance and media replacement. Anticipated chemical delivery is every 2 weeks and scrubber media replacement every 6 months.

3.2.1 Connected Action

The sanitary sewer pipeline would be design in public right-of-row and under existing roads, where possible, which would connect the Odor Control facility with the new pipeline. The Project 670 pipeline would be approximately 20,120 linear feet of 54-inch diameter pipe and 3,130 linear feet of 60-inch diameter pipe. The PWI pipeline as a whole would be approximately 70,000 linear feet of 48-inch, 54-inch, 60-inch, and 66-inch diameter pipe.

3.2.2 No Action Alternative

Under this alternative, the proposed odor control measures would not be implemented. Residences in the area could be subject to uncontrolled noxious odors coming from wastewater conveyances along the PWI pipeline.

3.2.3 Alternatives Considered and Eliminated from Detailed Consideration

Alternatives considered for the proposed Odor Control Facility include evaluation of eleven potential site locations along the route recommended for the PWI facility (Black and Veatch 2010: Figure 2). Several of these were not feasible because of site constraints or because they did not meet hydraulic operational requirements. The advantages and disadvantages of these locations are listed below:

- Site 1 was determined to be not feasible because when the future Enterprise Water Resource Center (EWRC) site is built, it will contain an Odor Control Facility, therefore potential site 1 is too close to the future EWRC site and would be redundant.
- Site 2 was not feasible due to site and Right-of-Way constraints.
- Site 3 was not feasible due to site constraints.
- Sites 4 through 11 were not feasible because they did not meet the hydraulic requirements of the system.

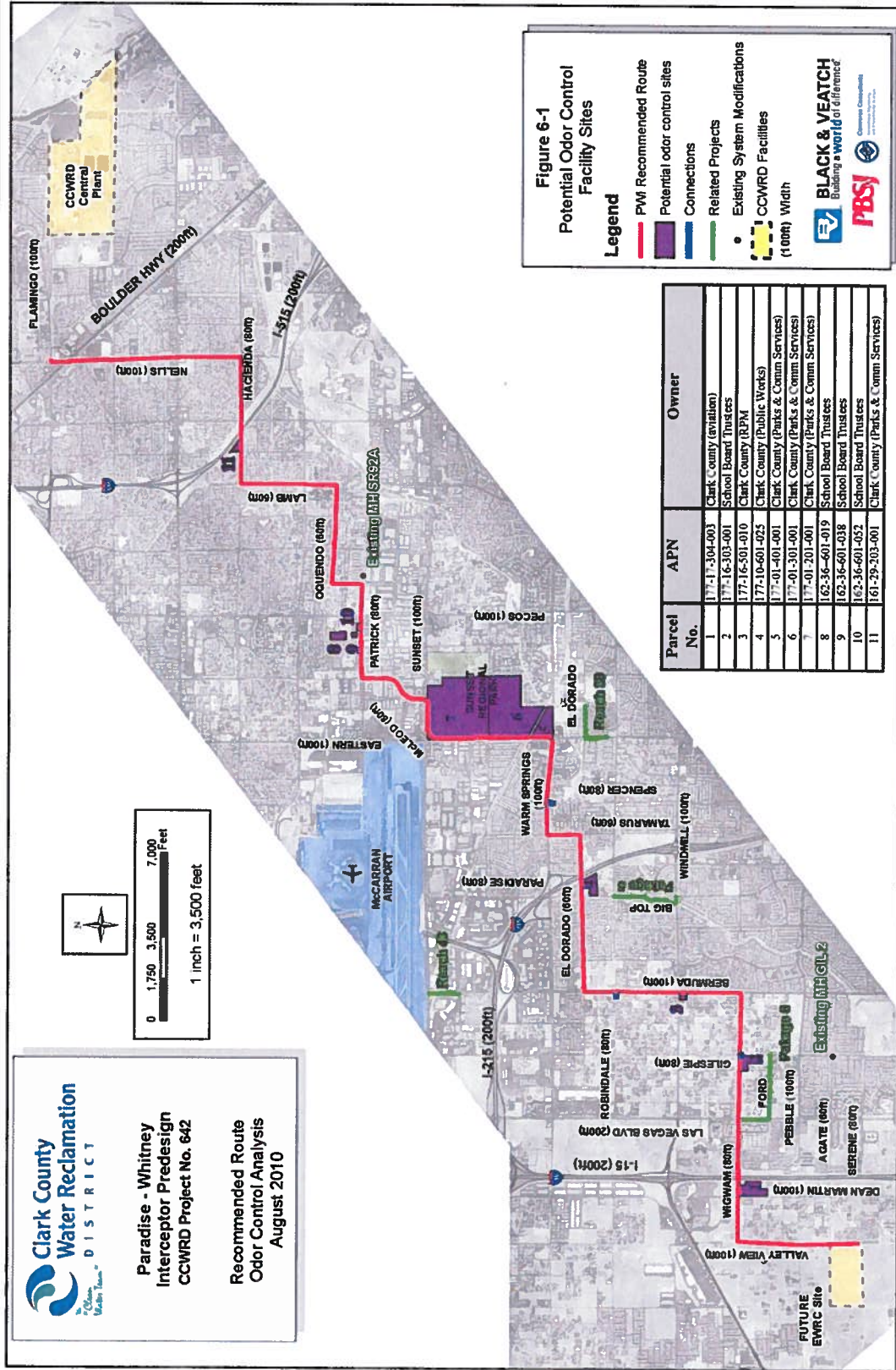


Figure 2. PWI Potential Odor Control Facility Sites

4. AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION MEASURES

This chapter describes the current conditions within the project area (the affected environment), environmental consequences of, and mitigation measures for the Proposed Action. Each resource analysis includes a definition of the affected environment, evaluating impacts prior to mitigation, listing mitigation if necessary, and then reevaluating impacts following mitigation.

4.1 Resources Considered and Eliminated from Detailed Consideration

The Council on Environmental Quality regulations (CEQ) (40 CFR 1501.7(a)(3)) specifically requires that environmental documents identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506), narrowing the discussion of these issues in the statement to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.

In compliance with that directive, issues were separated into substantive and non-substantive groups (Table 1). Substantive issues were defined as those with probable impacts to resources directly or indirectly caused by implementing the proposed action. An issue or resource would be considered non-substantive if it was: (1) outside the scope of the proposed action; (2) already decided by law, regulation, another NEPA document, or other higher level decision; (3) irrelevant to the decision to be made; or (4) conjectural and not supported by scientific or factual evidence.

In compliance with 40 CFR 1501.7(a)(3)), Table 1 lists the resources that were eliminated from detailed evaluation and those analyzed in detail. The following text provides rationale for their elimination.

4.1.1 PALEONTOLOGICAL RESOURCES

Paleontological resources are protected on public lands. An area is considered to be sensitive if it contains abundant vertebrate fossils or any fossils that may provide new and important scientific information. In general, the probability of finding fossils is based on the age of the rocks or soils. The proposed project occurs in an area of low paleontological potential. The alluvium that makes up the geologic formations in the project area is unlikely to contain any fossils of scientific value. The alluvium derives from rocks that are found in the surrounding mountains which are eroded by rain and wind until they become part of the valley soils. Any fossils that may be found in the parent rock are typically reduced to fragments that are not of scientific value. Therefore, field investigations and/or detailed evaluation is not warranted.

4.1.2 FARMLANDS

This resource was not considered in detail because effects would be irrelevant to the decision. No farmlands occur near the project area, and therefore none would be affected by the proposed action. Therefore, no further investigation is required.

Table 1. Potentially Impacted Resources

Identified Resource	Substantive Potential Impact Identified	
	Yes	No
Geology, Seismicity, Soils, and Mining	X	–
Paleontological Resources	–	X
Farmlands	–	X
Wilderness	–	X
Floodplain	–	X
Groundwater	X	–
Surface Water and Jurisdictional Waters	X	–
Wild and Scenic Rivers	–	X
Air Quality	X	–
Hazardous Waste	X	–
Fire Management	–	X
Access and Transportation	–	X
Biological Resources	X	–
Cultural Resources	X	–
Environmental Justice	–	X
Socioeconomic	–	X
Indian Trust Assets	–	X
Native American Religious Concerns	–	X
Soundscape	–	X
Visual Resources	–	X
Land Use and Recreation	–	X
Odor	–	X

4.1.3 WILDERNESS

This resource was not evaluated in detail because effects would be irrelevant to the decision made. No wilderness occurs within or near the proposed project area; therefore, no further investigation is required.

4.1.4 FLOODPLAIN

The proposed project area is part of the Duck Creek/Blue Diamond Watershed and is in compliance with the Clark County Regional Flood Control (CCRFCF) Master Plan Update (BLM 2004). Existing channels will continue in place to handle stormwater; therefore no further investigation of this topic is required.

4.1.5 WILD AND SCENIC RIVERS

This resource was not evaluated in detail because effects would be irrelevant to the decision made. No wild and scenic rivers occur within or near the proposed project area; therefore no further investigation is required.

4.1.6 FIRE MANAGEMENT

Detailed consideration of fire management practices was not deemed necessary in this EA because contractor safety practices such as providing vehicle fire extinguishers would address potential fire hazards during construction and operation.

4.1.7 ACCESS AND TRANSPORTATION

Access and transportation was considered and determined to be not relevant to this analysis because construction of the proposed Odor Control Facility would not restrict access to local streets and roads. If short-term traffic impacts are expected during construction, consultation with the appropriate transportation authority would take place to develop a Traffic Plan or other specific procedures for the project.

4.1.8 ENVIRONMENTAL JUSTICE

As defined by the CEQ regulations, a minority population was not identified within the Project Area [which includes the Proposed Action]. Therefore, no high and adverse health and/or environmental effects could occur on a minority population for this project. Low-income populations do exist within the Project Area; however, the project is anticipated to have an overall beneficial effect and no high and adverse human health and/or environmental effects on the low-income populations that were identified as a result of implementing this proposed project. Therefore, no further environmental justice analysis is warranted.

4.1.9 SOCIOECONOMICS

Overall, the effects on the socioeconomics of the Project Area [which includes the Proposed Action] are expected to be predominately negligible to positive. Displacement or disturbance of currently developed properties is not expected to occur. The labor and materials needed for construction would be readily available within the Project Area without importation of either.

4.1.10 INDIAN TRUST ASSETS

Indian Trust Assets are legal interests in property held in trust by the United States for Federally recognized Indian Tribes or individual Indians, or property of the United States requiring protection by law. Examples of resources that are Indian Trust Assets include lands, minerals, hunting and fishing rights, and water rights. Department of the Interior Order 3175 requires that

(1) agencies consult with Indian Tribes when trust property may be affected; and (2) environmental and planning documents should “clearly state the rationale for the recommended decision will be consistent with the Department’s trust responsibilities.” No known Indian Trust Assets are present in or near the proposed project area.

4.1.11 NATIVE AMERICAN RELIGIOUS CONCERNS

No known sacred sites or areas of Native American concern are within or near the project area.

4.1.12 NOISE

The potential impacts due to construction activity noise would be short-term and temporary, and primarily dependent upon the type of equipment used and its duration of operation. The construction of proposed facilities in compliance with a valid permit is not expected to result in excessive noise levels and would not require detailed project-specific review. Therefore, further analysis is not necessary.

4.1.13 VISUAL RESOURCES

Certain types of facilities have little to no impact on the visual character of the surrounding setting (BLM 2004:180). The proposed Odor Control Facility would appear co-dominant with other existing structures and facilities and would not impair views (Figure 3). Therefore, construction of the Odor Control Facility does not require further review.

4.1.14 LAND USE AND RECREATION

The project is located within a low to high density residential land use category. Land uses in the project area would not be affected by the proposed project. The proposed Odor Control Facility would provide a needed service to the residences in the project area and would not hamper other land use or recreational opportunities. Therefore, further analysis is not necessary.

4.1.15 ODOR

The project would not result in a change in odor during construction and would have a beneficial effect by reducing and/or eliminating future odors associated with increased flows. Therefore, further analysis is not warranted.

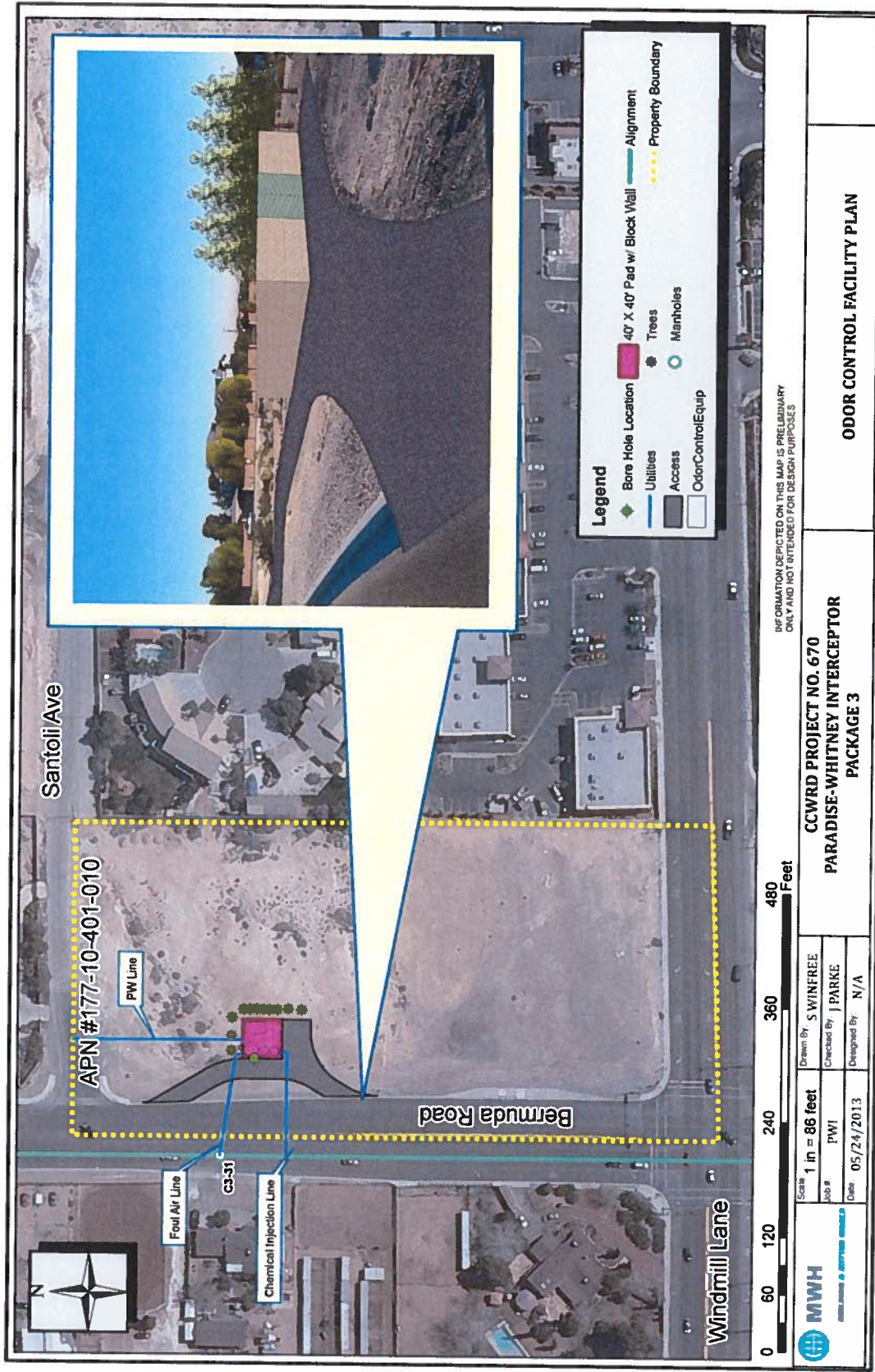


Figure 3. PWI Odor Control Facility Plan

4.2 Resources Considered in Detail

4.2.1 GEOLOGY, SOILS, SEISMICITY AND MINING

Identification of the properties of soils and geologic hazard constraints with potential to affect the project location were identified using geologic maps, information available from the Nevada Bureau of Mines and Geology (Longwell et al. 1965), and other documents.

4.2.1.1 Affected Environment

Geology and Soils: The proposed facility is located on Quaternary alluvial soils in the southern portion of the Las Vegas Valley. Examination of the Clark County Expansive Soils Map indicates the project area is not in an area of expansive soils (Clark County 2006). Examination of the Clark County Soil Guidelines Map indicates the project area is either within or adjacent to a region of Special Geotechnical Consideration because the area contains subsidence and compaction faults (Clark County 2001).

Seismicity and Faulting. The southern Great Basin has a relatively low level of historic seismicity in comparison to the northern and central portion. Historic seismicity in southern Nevada is characterized by earthquakes with magnitudes of less than 4.0. Thus, while faulting is well documented in the project area, the threat of actual seismic activity is low.

Mining: Manganese and gypsum are the main minerals that have been mined in the Las Vegas Valley. The manganese deposits are in sedimentary rocks of the Pliocene Muddy Creek Formation while the gypsum deposits mainly derive from the upper part of the Permian red beds and many parts of the Muddy Creek Formation. Most of the manganese has come from the Three Kids Mine on the eastern portion of the valley (Longwell 1965: 135), while gypsum is mined just east of the valley near Lake Mead (Longwell 1965: 152). The main mining activity is for gravel used as construction and building material. The gravel comes from alluvium and alluvial fans of Recent and possibly Pleistocene age (Longwell 1965: 166).

4.2.1.2 Environmental Consequences

This section summarizes potential geologic and soil hazards or constraints on the proposed facility. Information is found in Nevada Bureau of Mines publications (Longwell et al. 1965) and through the U.S. Geological Survey (USGS).

4.2.1.3 Environmental Consequences of the No Action Alternative

The No-Action Alternative would result in no change to existing impacts to soils, geologic features, or hazard potential. There are no unique or special geologic resources in the area that are affected by existing uses and the earthquake hazard is considered low.

4.2.1.4 Environmental Consequences of the Proposed Action

Under the Proposed Action an Odor Control Facility would be constructed to ameliorate noxious odors that might come from the PWI. During construction, soils would be subject to short-term, minor to moderate, localized adverse impacts that could potentially increase erosion. Increased soil erosion could also cause increased river siltation as soil is washed into down gradient

waterways. With implementation of mitigation measures (Table 4), these adverse impacts would be reduced to negligible or minor.

4.2.1.5 Mitigation-Proposed Action

Recommendations generally consist of construction methods that minimize the chance that the proposed facility would not function as planned. These are listed in Table 4. If implemented, the mitigation measures would reduce impacts to a level of non-significance.

4.2.2 GROUNDWATER

Under the authority granted in Nevada Revised Statutes 533 and 534, the State Engineer oversees groundwater quality and issues permits for the use of both surface and groundwater.

4.2.2.1 Affected Environment

Las Vegas obtains its public water mainly from Lake Mead, although some well water is still used. The wells recorded near the project area are documented on the Nevada Division of Water Resources Well Driller's Log. Wells drilled in the region have ranged from 30 to 890 feet deep (<http://water.nv.gov/data/welllog/>). Test borings that are approximately 30 feet deep have been completed along the west side of Bermuda Avenue and groundwater was not encountered (Ninyo & Moore 2012).

4.2.2.2 Environmental Consequences of the No Action Alternative

Implementation of the No-Action Alternative would result in no change to existing groundwater resources. Impacts to groundwater in the project area would continue due to continuing urban development.

4.2.2.3 Environmental Consequences of the Proposed Action

If shallow groundwater is encountered during construction, there is potential for chemical contamination from construction materials and vehicles. There is also potential for groundwater contamination associated with the nearby gas station (Ninyo & Moore 2013).

4.2.2.4 Mitigation-Proposed Action

With Best Management Practices (BMPs) for water quality in place (Table 4) during construction any adverse impact to groundwater would be short-term, and negligible to minor.

4.2.3 SURFACE WATER AND JURISDICTIONAL WATERS

4.2.3.1 Affected Environment

Several ephemeral washes drain into the PWI project area. These are dry most of the year; however, flash flooding can occur, especially following summer storm events. The ephemeral washes recorded on the proposed site are considered isolated waters and therefore not under the jurisdiction of the U.S. Army Corps of Engineers as defined in the Clean Water Act. These washes terminate or the bed and bank become non-discernible at the surrounding residential developments, therefore, no connection to jurisdictional Waters of the United States exists.

The project area does not contain: 1) wetlands, wetland fringes or adjacent wetlands, or 2) spawning, feeding, or nesting areas for fish or other important aquatic species. No hydric soils exist within the survey area, and habitat on the site does not meet the regulatory definition of a wetland.

4.2.3.2 Environmental Consequences of the No Action Alternative

If the proposed project is not constructed, there would be no improvements to the PWI and the purpose of the project would not be met.

4.2.3.3 Environmental Consequences of the Proposed Action

With BMPs in place, impacts from increased erosion and sedimentation due to ground-disturbance activity would be reduced to a level of non-significance.

4.2.3.4 Mitigation-Proposed Action

While a permit from the Corps issued under Section 404 of the Clean Water Act is not needed for this project, a Section 401 water quality permit from the Nevada Department of Environmental Protection may be required. It is anticipated the State permit will reference BMPs. Compliance with the terms and conditions of this permit will ensure potential impacts to water quality are reduced to an acceptable level. BMPs to prevent or reduce source pollution and minimize soil loss and sedimentation into the Las Vegas Valley drainage system are listed in Table 4.

4.2.4 AIR QUALITY

Pursuant to the Clean Air Act (42 U.S.C. 7401), federal actions must include measures to control particulate matter resulting from activities such as excavating and grading. The Clark County Department of Air Quality (CCDAQ) regulates construction activities that disturb soil in Clark County.

4.2.4.1 Affected Environment

The U.S. Environmental Protection Agency provides data regarding nonattainment areas within the United States (EPA 2005). The Las Vegas Valley is an area that is often on the nonattainment list (CCDAQ 2006). The main factors causing poor air quality in the Las Vegas Valley are particulate matter from numerous construction activities and carbon monoxide from gas powered vehicles. Air quality in the vicinity of the project area ranges from healthful to unhealthy throughout the year depending on various factors including wind speed, presence of inversion layers, and time of day.

Also, noxious odors from the sewer line may affect public perception of air quality. While the PWI has been designed to minimize sulfide generation and release by using smooth transitions at manholes and by eliminating drop manholes, siphons, and diversion structures, modeling indicates that the PWI is still expected to generate some sulfide gases.

4.2.4.2 Environmental Consequences of the No Action Alternative

If the proposed Odor Control Facility is not constructed, there will be no change in current air quality levels and no mitigation will be necessary.

4.2.4.3 Environmental Consequences of the Proposed Action

Dust and other airborne pollutants such as particulate matter are typically generated during earth moving and surface disturbing activities. These emissions would vary from day to day and activity to activity, with each activity having its own potential to release emissions. Because of the variability in timing and intensity of construction, estimating construction-related emissions is difficult. Nevertheless, it is assumed that during construction of the proposed facility there would be a short-term minor adverse impact to air quality during construction-related excavation and grading activities.

Construction of the Odor Control Facility will help to reduce noxious odor emanating from the sewer line. This would constitute a long-term beneficial impact to air quality during the life of the facility.

4.2.4.4 Mitigation-Proposed Action

This project will require construction permits from the CCDAQ. As part of the permit, Clark County would require that airborne particulates be minimized through a series of control measures designed to control windblown fugitive dust (Table 4). These include construction watering for dust control and use of construction methods that keep particulate levels within acceptable limits.

4.2.5 HAZARDOUS WASTE

Pursuant to Nevada Revised Statutes 459.400 and 459.600 hazardous materials must be properly stored, handled, and disposed. The project area is located on lands that have been allocated for public use, and have not been utilized for other purposes. A Phase I Environmental Site Assessment (ESA) Report was prepared for the PWI Odor Control Facility proposed location and the surrounding area (Ninyo & Moore 2013).

4.2.5.1 Affected Environment

Based on a review of historical sources, the subject site has primarily been undeveloped land. Reviews of prior ownership records for the subject site at the Clark County Assessor website indicate that no ownership entries of environmental concern exist.

Review of environmental databases indicated there are three facilities located in the vicinity of the subject site that have handled hazardous materials or petroleum products and/or have been listed as having reported releases of hazardous materials or petroleum products. Based on distance from the subject site, regulatory status of these facilities, and/or assumed groundwater flow direction in the vicinity of the subject site, there is a low likelihood that two of the facilities represent an environmental concern to the subject site at this time (Ninyo & Moore 2013).

4.2.5.2 Environmental Consequences of the No Action Alternative

If the proposed project is not constructed, there would be no improvements to the PWI and the purpose of the project would not be met.

4.2.5.3 Environmental Consequences of the Proposed Action

One facility is on the southeastern adjoining property and is an active gas station. The presence of this gas station represents a recognized environmental condition (REC) to the subject site although no violations have been documented.

4.2.5.4 Mitigation-Proposed Action

Potential impacts associated with the use of hazardous materials during construction would be minimized by operating in accordance with the laws and regulations governing hazardous material management (Table 4).

4.2.6 BIOLOGICAL RESOURCES

The project area is located adjacent to the Duck Creek drainage. The area includes Creosote-Bursage Scrub and Developed/Urban vegetation communities.

The initial step in the analysis of impacts to biological resources is to identify the vegetative community type in the project area and compile a list of special status plant and animal species potentially occurring in the project area. In addition, known distributions of noxious weeds must be identified. This information is used to develop an appropriate field reconnaissance of the facility site by biologists familiar with the local ecological resources. The results of the field reconnaissance are then used to validate and add to the existing information on potentially affected biological resources, as well as to refine the assessment of potential impacts associated with the proposed facility.

4.2.6.1 Affected Environment

On April 10, 2013 NewFields submitted a request to the Nevada Natural Heritage Program (NNHP) for a list of At-Risk plant and animal species. The NNHP indicated that no at risk taxa have been recorded in the area, but habitat for the desert tortoise (*Gopherus agassizii*), chuckwalla (*Sauromalus ater*), the spotted bat (*Euderma maculatum*), the banded Gila monster (*Heloderma suspectum cinctum*) and the Las Vegas bearpoppy (*Arctomecon californica*) could occur in the project area.

Desert tortoise surveys were performed within the project area in April, 2013. Experienced biologists surveyed 100 percent of the project area and followed the latest Fish and Wildlife Service protocols. No desert tortoise, tortoise burrows, or other signs of tortoise were found in the project area.

Surveys for other sensitive plants and animals were also conducted in April of 2013. As per the BLM rare plant survey protocol, a complete pedestrian survey was performed by NewFields scientists and Ms. Hermi Hyatt, a BLM approved botanist. Dominant perennial and annual plant species observed include white bursage (*Ambrosia dumosa*), Nevada ephedra (*Ephedra nevadensis*), fourwing saltbush (*Atriplex canescens*), catclaw acacia (*Acacia greggii*), honey mesquite (*Prosopis glandulosa*) and mistletoe (*Phoradendron californicum*).

No animals or plants that are listed as threatened, endangered, sensitive, or special status by the BLM were located during the survey. Noxious weeds located in the project area included tamarisk (*Tamarix ramosissima*), Sahara mustard (*Brassica tournefortii*), and an invasive grass, red brome (*Bromus madritensis*).

Trees planted in the landscape could provide nesting sites and habitat for species protected under the Migratory Bird Treaty Act (MBTA). Tree trimming and maintenance during nesting periods has potential to affect these species.

Invasive plants and noxious weeds are managed on public lands by the BLM under the direction of the National Invasive Species Council (NISC) established in 1999 (Executive Order [EO] 13112). This statute defines invasive species as "...an alien (non-native) species whose introduction does, or is likely to cause, economic or environmental harm or harm to human health" (NISC 2008). In addition, much of the management of invasive plants and the listing of noxious weeds are regulated by the USDA under the Federal Noxious Weed Act (7 U.S.C. 2801 et seq. 1974).

Executive Order 13112 outlines the federal responsibility to "prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause..." Additionally, Nevada Revised Statutes, Chapter 555.05 defines "noxious weeds" and mandates the extent that land owners and land management agencies must control specific noxious weed species on lands under their jurisdiction. Southern Nevada lands are impacted by the presence of noxious and invasive, non-native vegetation. The BLM has prepared the Las Vegas Field Office (LVFO) Weed Plan that provides guidance for an active integrated weed management program using BMPs.

The proposed site may be affected by various noxious and/or invasive weeds that are known to occur within the Southern Nevada District. A list of some of the weed species that are a concern includes (but is not limited to); Sahara mustard, camelthorn (*Alhagi maurorum*), perennial pepper weed (*Lepidium latifolium*), several knapweeds, malta starthistle (*Centaurea melitensis*) and yellow starthistle (*Centaurea solstitialis*), Johnson grass (*Sorghum halepense*), Scotch thistle (*Onopordum acanthium*), Canada thistle (*Cirsium arvense*), fountain grass (*Pennisetum setaceum*), puncture vine (*Tribulus terrestris*), Russian thistle (*Salsola tragus*), and tamarisk. A complete list of State of Nevada Noxious Weeds can be obtained from the BLM District Weed Management Specialist.

4.2.6.2 Environmental Consequences of the No Action Alternative

Under this alternative, the proposed odor control measures would not be constructed. As a result, no construction-related impacts (which are the primary cause of impacts to biological resources as a result of implementing the proposed odor control facility) would occur on BLM lands and no mitigation would be required.

4.2.6.3 Environmental Consequences of the Proposed Action

The Proposed Action will create up to approximately 1.25 acres of surface disturbance, which has the potential to affect the project area as well as adjacent lands by introducing and/or exacerbating current weed populations.

4.2.6.4 Mitigation-Proposed Action

Pursuant to the Programmatic Biological Opinion for Bureau of Land Management Activities Adversely Affecting 19 Listed Species and Critical Habitat (PBO) (BLM 2013), federal actions that may adversely affect less than twenty acres of desert tortoise habitat may proceed without further review by the U.S. Fish and Wildlife Service, provided the BLM requires appropriate protective measures in accordance with the measures and terms of the PBO.

Periodical trimming and mowing of ornamental vegetation would be required. Tree trimming/mowing would take place outside of the bird breeding season (March through August). If trimming/mowing must occur during the bird breeding season, a qualified biologist will survey the area to ensure that no active bird nests are located within the project area. If an active nest is located, no trimming/mowing would take place until the young birds fledge (leave the nest).

Standard BMPs will be followed throughout the construction process in order to minimize any potential impacts from non-native or invasive plant species (Table 4). This will reduce potential effects to a level of non-significance.

4.2.7 CULTURAL RESOURCES

The analysis procedure for addressing cultural resources involves the following Section 106 of the National Historic Preservation Act (NHPA) procedures: (1) defining the area of potential effect, (2) identifying historic properties, (3) assessing effects, (4) developing mitigation (avoidance, recovery of significant information, etc.), and (5) implementing mitigation through consultations with the State Historic Preservation Officer, the Advisory Council (if an adverse effect is identified and they choose to participate), Native Americans, and other interested parties. The BLM's Proposed Action is subject to compliance with Section 106 of the NHPA as it is considered a federal undertaking. Section 106 requires federal agencies to consider the effects of their actions on historic properties and to consult with the State Historic Preservation Office.

Area of Potential Effects

The area of potential effects (APE) is defined in 36 CFR 800.16(d) as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. The APE for the project includes the project footprint because the majority of the area surrounding the proposed project has been previously developed.

The facility-specific procedure for the proposed PWI Odor Control Facility involved a file search and literature review of previous archaeological research in or near the proposed facility location. If literature review and pedestrian survey fail to locate any cultural resources, the project will have no adverse effect on any historical properties.

4.2.7.1 Affected Environment

The project area has been previously surveyed for cultural resources as an alternative alignment to Interstate Highway 215 (I-215). The literature review indicates that numerous cultural resources have been found in the project vicinity, although none are within the project footprint.

Most of the cultural resources recorded in the area have been destroyed as a result of development.

Previous Research: The proposed project is in an area of high archaeological sensitivity. NewFields sought documentation describing previous work conducted within 1 mile of the proposed PWI Odor Control Facility by searching the records at the Desert Research Institute (DRI), University of Nevada, Las Vegas. DRI serves as the regional repository for records of this kind. Previous cultural resource studies indicate that numerous prehistoric and historic archaeological sites are located within 1 mile of the project area. These generally focus on the Duck Creek drainage and date from the Middle Archaic to the later periods of prehistory (see Table 2) and include: a large basalt quarry, sites containing large amounts of lithics combined with fire affected rock (probable hearths) with no ceramics, sites containing lithics, groundstone, fire affected rock and ceramics. These sites correspond to the large number of campsites that have long been known to occur along Duck Creek. The presence of springs and mesquite groves in this area likely drew people to the project area.

Table 2. Chronological Sequence of the Las Vegas Valley

Period	Subperiod	Date Range
Lake Mojave	Fluted Point Tradition Stemmed Point Tradition	B.C. 10,000–5000 B.C. 9200–5500
Archaic	Pinto Gypsum	B.C. 5500–3000 B.C. 3000–350 A.D.
Saratoga Springs	Moapa Muddy River Lost City Mesa House	350–550 A.D. 550–750 A.D. 750–1150 A.D. 1150–1200 A.D.
Late Prehistoric		1200 A.D.–Contact
Protohistoric		1600–1830 A.D.
Historical Euro-American	Exploration Mining & Ranching Railroads	1600–1855 A.D. 1856–1930 A.D. 1905–1950 A.D.

Field Reconnaissance: Because the entire project area has been previously surveyed as an alternate route for the present-day I-215 additional survey were not necessary.

4.2.7.2 Environmental Consequences of the No Action Alternative

If the proposed PWI Odor Control Facility is not constructed there would be no project induced changes in the cultural resources in the project area.

4.2.7.3 Environmental Consequences of the Proposed Action

Because no sites eligible for listing on the National Register of Historic Places (NRHP) were found during survey of the I-215 alternative, no effects to cultural resources are anticipated.

4.2.7.4 Mitigation-Proposed Action

Because no cultural resources were located within the project area, no mitigation measures would be necessary for the proposed PWI Odor Control Facility.

5. CUMULATIVE IMPACTS

In 40 CFR 1508.7, the CEQ defines cumulative impacts as “impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.” NEPA requires the consideration of cumulative impacts, which are the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal).

5.1 Past, Present, and Reasonably Anticipated Future Projects

Traditional uses of the project area and surrounding area have been for residential and commercial activities. A small “strip mall” is adjacent to the project along with various residences. Clark County had experienced a high level of growth and expansion. It is assumed that residential and commercial development in Clark County will continue although the precise locations and timing of developments is unknown and cannot be predicted in this EA.

6. OTHER ANALYSES

6.1 Relationship Between Short-Term Uses and Long-Term Productivity

Section 1502.16 of NEPA presents the requirements of the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity. The following sections discuss the short-term impacts of the proposed project, and the long-term adverse and beneficial effects of the proposed project, and the justification for developing the proposed project.

6.1.1 Short-Term Uses of Man's Environment

Short-term uses of man's environment include the project impacts that are considered significant and temporary. This includes construction impacts on soils and air quality. Additionally, there is potential for a fuel or chemical spill to occur during the construction and operation of the proposed facilities.

Temporary soil impacts mainly relate to erosion and air quality during construction. These are considered temporary and minor and would be mitigated by implementing the mitigation measures found in Table 4.

6.1.2 Long-Term Effects of the Proposed Project

Construction of the proposed Odor Control Facility will not cause any long-term adverse impacts. Long-term minor to moderate beneficial impacts to air quality would result as the potential for noxious sulfide emanations would be reduced.

6.2 Irretrievable Commitments of Resources

6.2.1 Irreversible and Irretrievable Commitment of Resources

Resources committed to the Action Alternative would be material, personnel, and financial assets. An irreversible commitment of resources occurs if the commitment cannot be changed once made. Irretrievably committed resources are used, consumed, destroyed, or degraded during construction, operation, and maintenance of a project and could not be reused or recovered for the lifespan of the project and beyond. Construction of the proposed Odor Control Facility would result in some irreversible and irretrievable commitments, including labor, capital, and construction materials. Table 3 summarizes irreversible and irretrievable commitments of resources of the Proposed Alternative.

Table 3. Irreversible and Irretrievable Commitment of Resources

Type of Commitment/Reason for Commitment	Irreversible	Irretrievable
Geology, Seismicity, and Soils		
Sands and gravels during construction	Yes	Yes
Surface Water and Jurisdictional Waters		
None	–	–
Access and Transportation		
Personnel and equipment to transport construction materials	Yes	Construction
Land Use and Recreation		
Exclusion of other uses	No	Project lifespan
Air Quality		
Temporary degradation of air quality during construction	Yes	Yes
Hazardous Waste		
Personnel and equipment for cleanup	Yes	Pre-construction
Environmental Justice		
Increased local employment	–	Project lifespan

7. ENVIRONMENTAL COMMITMENTS (MITIGATION PLAN)

Table 4 summarizes the measures that would be used to minimize impacts occurring as a result of construction and maintenance of the proposed PWI Odor Control Facility. For most of the categories, BMPs will be used to limit environmental consequences. Also, the WQMP defines procedures to promote effluent water quality.

Table 4. Environmental Commitments (Mitigation Plan) for the Proposed PWI Odor Control Facility

Impact	Timing	Mitigation	Responsible Party	Responsible for Compliance
Geology, Seismicity, and Soils				
Soil disturbance	During construction	Embankment foundations must be set on appropriate soils and keyways established. Application of water to inhibit erosion.	Construction contractor	District
	During construction	Lateral loads should be resisted utilizing appropriate passive pressure and friction resistance formulae.	Construction contractor	District
	During construction	Concrete slabs should be supported on appropriate granular material or sand, and cured properly so that excessive slump or cracking do not occur.	Construction contractor	District
	During construction	Pavement materials such as asphalt and base course should be properly drained and compacted to meet the criteria set forth by the Uniform Standard Specification for Public Works Construction, Off-Site Improvements for Clark County Area, Nevada.	Construction contractor	District
	During construction	Asphalt pavement sections should be 2 inches thick where automobiles and pick-up trucks will be in use, and 3 inches thick where light truck traffic is expected. Concrete paving must be 5 inches thick for automobiles and pick-up trucks, 6 inches thick for light truck traffic, and 7 inches thick for moderate truck traffic volume.	Construction contractor	District
	During construction	Soils such as hard cemented sand and gravel/bedrock should be excavated with appropriate heavy equipment.	Construction contractor	District
	During construction	Trenching and shoring should be conducted in accordance with State of Nevada Occupational Safety and Health Standards for the Construction Industry.	Construction contractor	District
	During construction	Excavated subgrades should be inspected to verify the removal of unsuitable deposits and then moistened and compacted to a minimum of 95 percent of modified Proctor maximum dry density.	Construction contractor	District
	During construction	On-site native soils are preferred for use as fill, but import materials may also be used as long as all these soils are free from debris, organic matter,	Construction contractor	District

Table 4. Environmental Commitments (Mitigation Plan) for the Proposed PWI Odor Control Facility

Impact	Timing	Mitigation	Responsible Party	Responsible for Compliance
		and oversized materials. Fill must contain less than 3 percent water soluble material, must have less than 4 percent expansion potential, must contain less than 0.10 percent water soluble sulfates, and must contain less than 20 percent by weight of clay or silt fines (ASTM 2006).		
	During construction	Fill should be tested at a minimum of one compaction test per 25,000 square feet per lift	Construction contractor	District
Water Quality				
Drainage and sediment control	During and after construction	Compliance with the Clark County area-wide WQMP that complies with section 208	District	CCDAQ
	During construction	Keep disturbed areas as small as practical to minimize exposed soil and the potential for erosion.	Construction contractor	CCDAQ
	During construction	Locate waste and excess excavated materials outside drainages to avoid sedimentation.	Construction contractor	CCDAQ
	During construction	Install silt fences, temporary earthen berms, temporary water bars, sediment traps, stone check dams, or other equivalent measures (including installing erosion-control measures around the perimeter of stockpiled fill material) as necessary.	Construction contractor	CCDAQ
	During construction	Conduct regular site inspections during the construction period to ensure that erosion-control measures were properly installed and are functioning effectively.	Construction contractor	CCDAQ
	During construction	Store, use, and dispose chemicals, fuels, and other toxic materials in an appropriate manner.	Construction contractor	CCDAQ
Air Quality				
Particulates	Prior to construction	Obtain a permit from the CCDAQ	District	CCDAQ
Particulates that become airborne during grading or construction	During construction	Application of water to control particulates.	Construction contractor	CCDAQ
Hazardous Materials				
Vehicle emissions and spills	During construction	All vehicles would be maintained in a clean and well-functioning state to avoid or minimize contamination from automotive fluids. All vehicle or hazardous waste leaks, spills or releases would be reported immediately to the designated environmental manager. All spill materials would be cleaned up and disposed of at an approved offsite landfill or repository.	Construction contractor	Nevada Division of Environmental Protection
Petroleum leaks	Prior to and during	If petroleum products have leached into the soil the contaminated material	Construction	Nevada Division of Environmental

Table 4. Environmental Commitments (Mitigation Plan) for the Proposed PWI Odor Control Facility

Impact	Timing	Mitigation	Responsible Party	Responsible for Compliance
	construction	would be excavated and shipped to an approved site.	contractor	Protection
Biological Resources				
Impacts to sensitive species	During construction	No threatened, endangered or sensitive species identified so no mitigation measures needed.	N.A.	N.A.
Nonnative plants	During construction	Rehabilitate, reclaim, or revegetate areas subjected to surface-disturbing activities where feasible.	Construction contractor	District
	Prior to construction	Complete a Weed Risk Assessment for the proposed project prior to construction activities.	District	District
	During construction	If off-site fill material is used, survey the site where the fill source comes from for noxious plants. Only fill from non-contaminated sites shall be used.	Construction contractor	District
	During construction	Certify that all plant material including animal feed and material used for erosion control (straw, etc.) is weed-free.	Construction contractor	District
	During construction	Clean all equipment of weed and grass seeds, stems, stalks, etc., prior to arrival and release from the project site.	Construction contractor	District
Cultural Resources				
Site Destruction	During construction	No sites were found, so no mitigation is needed		

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